

ABSTRACT OF THE DISCLOSURE

Disclosed herein is a system including a closed loop topology using an optical fiber applicable to WDM signal light obtained by wavelength division multiplexing a plurality of optical signals, and a plurality of nodes arranged along the closed loop topology, each node including an optical amplifier. Each node further includes a first unit for controlling the optical amplifier so that the output from the optical amplifier becomes constant, according to the number of channels of WDM signal light received from the node immediately upstream of the corresponding node, and a second unit for interrupting the optical signals other than one or more optical signals added to the corresponding node until the control by the first unit is converged. With this configuration, each node can be easily started.